DRM in Digital Era: An Overview

Presented by

Roji Barik
Library Trainee, BPCL,
NIT Rourkela

Malatee Padhan
Asian Worker Development Institute
Bastia Memorial Trust, Sec-6, RKL

Emerging Trends & Techniques for Electronic Resource Management in Libraries: Issues & Challenges

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- What is DRM … ?
- Functional Architecture of DRM
- DRM Techniques
- DRM & Libraries
- Conclusion

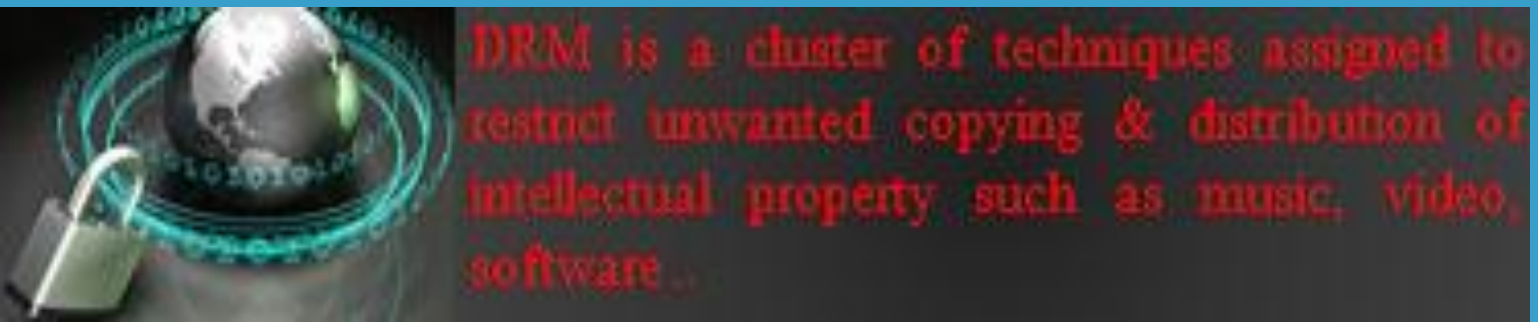
INTRODUCTION

- world moves from traditional to the digital environment
- The internet is a worldwide network
- making the information sharing so easy.
- global duplicating system
- questions on protection of intellectual property of creators

What is DRM… ?

DRM

- *Digital* – concerned with digital resources available in cyberspace, such as database, websites, e-resources
- *Rights* – deals with legally granted power to the copy right holder to protect the digital work
- *Management* – concerned with mechanism to control or prevent copying the intellect



DRM Architecture

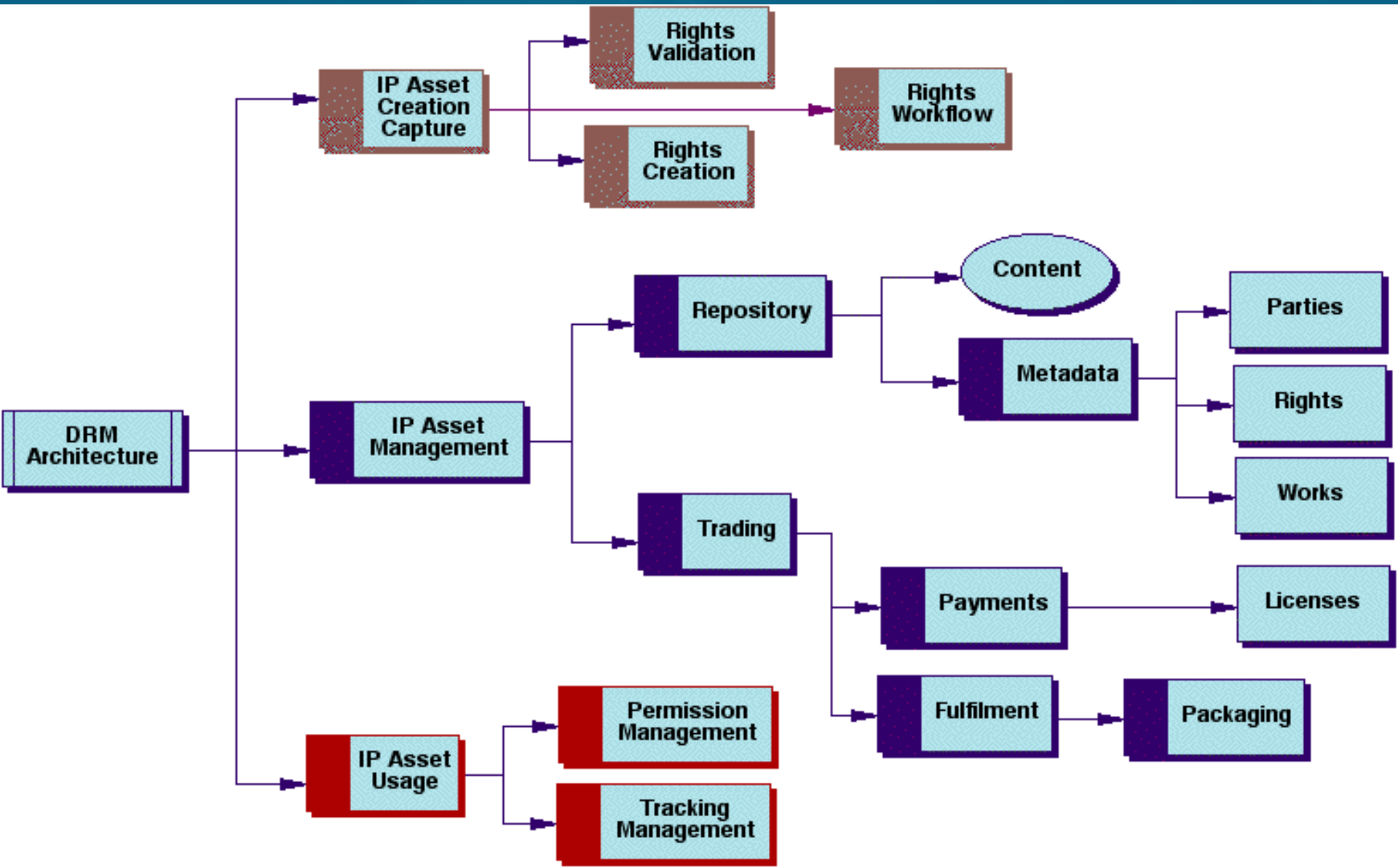
The functional architecture of DRM is based on three important modules.

1. **Content creation & capture** Rights validation
   Rights creation
   Rights workflow

2. **Content management** Repository function
   Trading functions

3. **Content usage** Permissions management
   Tracking management

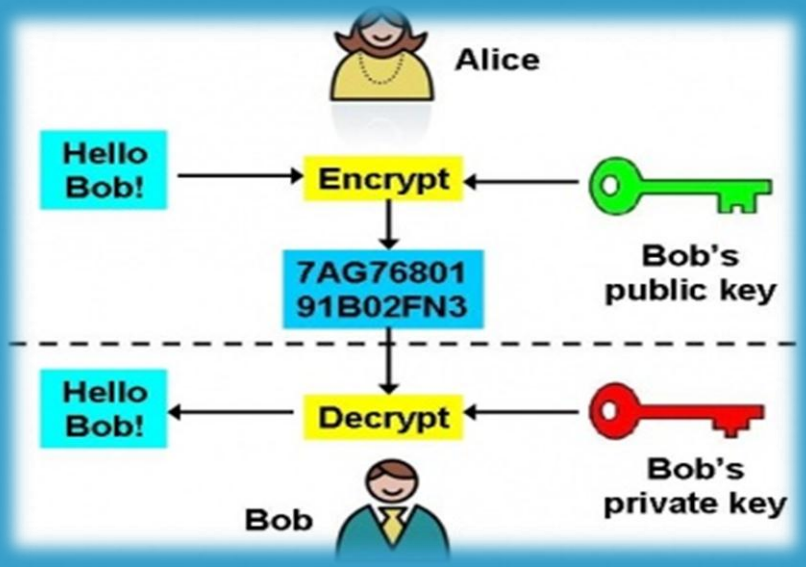
Functional Architecture of DRM



DRM Techniques

1. Encryption –

- lock the content
- secret key/ password (a particular phrase or string of numbers),



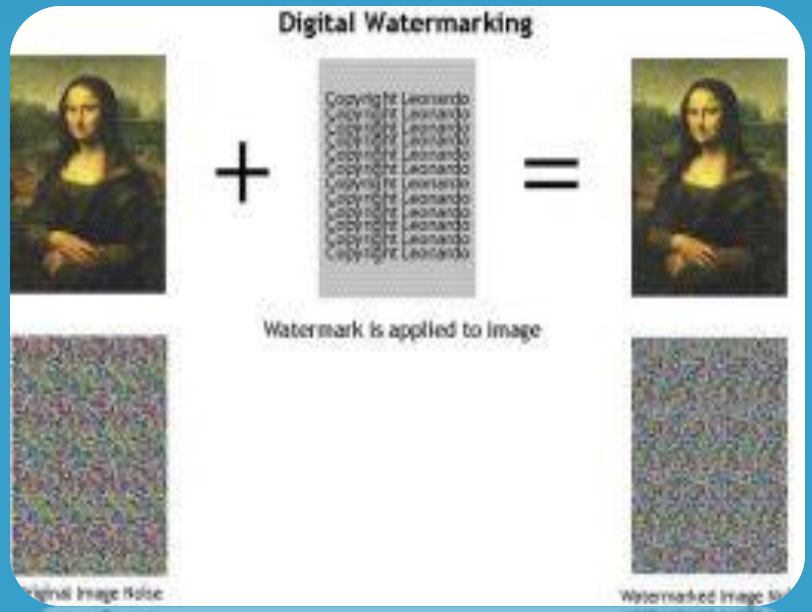
2. Public/ private keys

- Publicly accessible key
- Secrete key- only known by respective owner
- Both keys are mathematically related

DRM Techniques

3. Digital certificate

- electronic passport
- exchange private information securely
- link between a person & his virtual identity



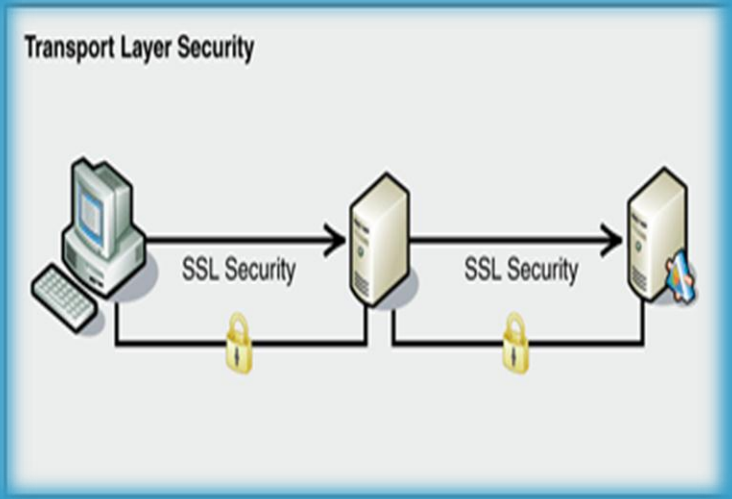
4. Digital watermarking

- embedded information
- hides the information related to digital signal within the signal itself
- evidence of its authentication

DRM Techniques

5. Access Control

- Protect the intellectual property of copy right holder
- Authorized user can access it,



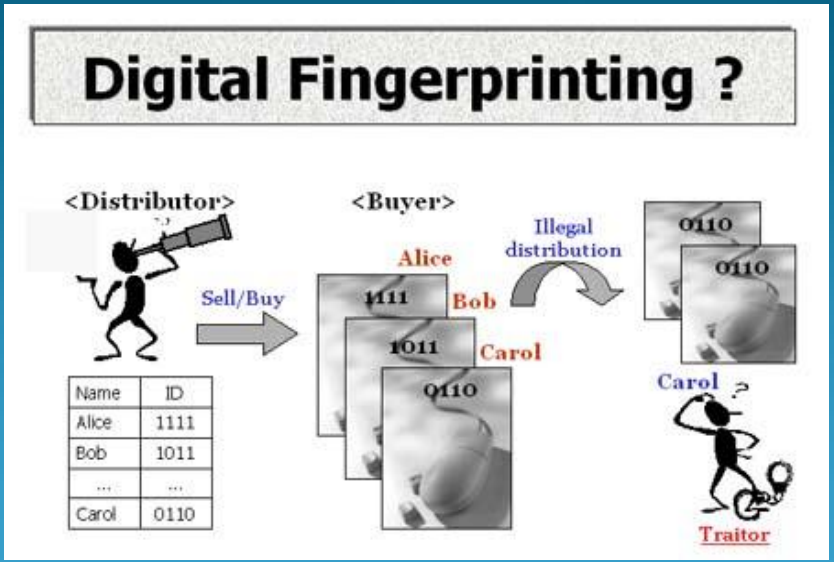
6. Secure Communication Protocols

- Secure Sockets Layer and Transport Layer Security are cryptographic protocols
- secure communications on the internet

DRM Techniques

7. Fingerprinting

- protect the digital media (broadcast, radio, live, web etc..)
- purchaser's information
- Content based identification technology



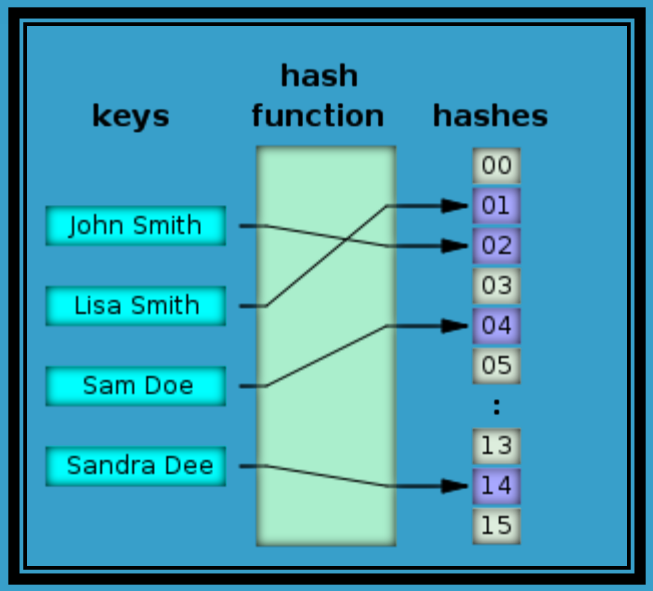
8. Rights specification language

- technology or mechanism which describes the author or publisher rights.
- standard vocabulary to describe the DRM and other relevant issues

DRM Techniques

9. Trust infrastructure

- support transport, opening, displaying and disposing the package.
- DRM support to transport this secure package from author or content provider to consumer or end user.



10.Hashing

- transformation of a string of characters
- shorter fixed-length value or key
- represents the original string

DRM & Libraries

- **Copyright terms** - DRM may be used to prevent copying of works beyond the terms of their copyrights, or may be used to impose copy protection for works otherwise in the public domain, or works that have been licensed for less restricted general uses.
- **Preservation and archiving** - DRM may be used to limit librarian's ability to preserve or archive a work, e.g., by preventing a work from being moved from more perishable to more permanent storage media.
- **Artistic creation** - It has been understood that the creation of new artistic works may require the transformation of older ones; DRM may be used in ways that prevent such transformation from happening.
- **Historiography** - Historical research fundamentally depends on being able to access and quote older documents and other kinds of works. DRM can be implemented in ways that make historiography more difficult
- **Fair use** -The ability of anyone to make unlicensed use of the protected works of other within limits established by law

Conclusion

Library has to create a balance between the digital information & techno savvy users group. The adoption of DRM technology is most necessary if libraries are not to be lost in a world of omnipresent information.

Thanks!